

REMARKS

Claims 1, 2, 13–15, 23–29, 43, 44, 54–56, 58, 65, and 67 are pending in this application. Non-elected claims 54–56, 58, 65, and 67 have been withdrawn from consideration by the Examiner. By this Amendment, claims 12, 24, 27, 28, and 43 are amended. Support for the amendments to the claims may be found, for example, in the original claims and specification. No new matter is added.

In view of the foregoing amendments and following remarks, reconsideration and allowance are respectfully requested.

I. Rejections Under 35 U.S.C. §102/§103**A. Lortz**

The Office Action rejects claims 1, 2, 13–15, 23–29, 43, and 44 under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over U.S. Patent Application Publication No. 2004/0106697 to Lortz et al. ("Lortz"). Applicants respectfully traverse the rejection.

Claim 1 recites:

A dispersoid having
 metal-oxygen bonds
 which is obtained by mixing
 a metal compound having at least three hydrolyzable groups
 with
 a given amount of water
 in the absence of all members selected from the group
 consisting of
 an acid,
 a base and
 a dispersion stabilizer and
 at a given temperature,
 which dispersoid is characterized in that
 the given amount of water is at least 1.0 mole but less than 2.0
 moles per mole of the metal compound, and
 the given temperature is a temperature below 0°C,
 wherein a transmittance, expressed as a spectral transmittance
 measured at a dispersoid concentration of 0.5 wt % of oxide basis, at a

quartz cell light path length of 1 cm, using the organic solvent as a control, and at a light wavelength of 550 nm, is 80% to 100%.

The Office Action asserts that the claim reads on Lortz, which allegedly discloses an aqueous dispersion of silicon dioxide powder that has metal oxide bonds. The Office Action does not give patentable weight to the following **structural** limitations recited in claim 1:

- (a) a metal compound having at least three hydrolyzable groups;
- (b) the absence of all members selected from an acid, a base, and a dispersion stabilizer;
- (c) the given amount of water is at least 1.0 mole but less than 2.0 moles per mole of the metal compound; and
- (d) a spectral transmittance measured at a dispersoid concentration of 0.5 wt % of oxide basis, at a quartz cell light path length of 1 cm, using the organic solvent as a control, and at a light wavelength of 550 nm, is 80% to 100%.

The Office Action contends that limitations (a) to (c) are not considered to limit a final dispersoid composition, but are only limited to the process of making the dispersoid, proffering that "[a]fter making the material, the water content may be adjusted and acids, bases, and additives may be added." *See* Office Action, page 3.

The Office Action's position is incorrect as a matter of law. There is no legal basis that supports the contention that after making the material, the recited structural limitations of the claimed product may be adjusted. If the water content is adjusted, or acids/bases/additives are later added, then these are still process steps in making the dispersoid. However, the claims clearly limit the water content, and clearly require that the dispersoid is obtained in the absence of all members selected from an acid, a base, and a dispersion stabilizer. Also, claim 1 clearly requires that the metal compound has three hydrolyzable groups.

Additionally, it is unclear as to the relevance of the Office Action's assertions regarding a "final" dispersoid. The claims do not recite a "final" dispersoid, nor do they make reference to dispersoids being in various stages of completion. As pointed out by the Office Action, determination of patentability of product-by-process claims is based on the product itself. The claims recite "a dispersoid" with a number of additional structural limitations. MPEP §2113 provides that the structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art, especially where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product. At the very least, the structure implied by the process steps of claim 1 includes (1) a dispersoid being devoid of all members selected from an acid, a base, and a dispersion stabilizer; (2) a dispersoid having an amount of water that is at least 1.0 mole but less than 2.0 moles of water per mole of the metal compound; and (3) a dispersoid comprising a metal compound having at least three groups that are hydrolyzable or hydrolyzed. The Office Action fails to show where Lortz teaches a dispersoid (final, intermediate, or otherwise) that has all of these elements. Furthermore, the Examiner's attention is directed to Examples 48–56 and Table 2 of Applicants' specification that disclose dispersoids made according to the pending claims that are directly coated onto substrates, thereby forming oxide films. That is, there is no addition of a base, an acid, or a dispersion stabilizer, nor is the water content "adjusted" after the dispersoid is made.

With respect to the claimed spectral transmittance, the Office Action, on page 4, asserts, "Absent a showing otherwise, the transmittance is expected to be commensurate with the claims given that the method of making the dispersoid is not seen to impact the final structure." This is a conclusory statement devoid of any factual or legal underpinnings. The assertion is that the transmittance is inherently taught by the reference.

Precedential U.S. case law states:

In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.

Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original).

To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'

In re Robertson, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (citations omitted).

The Office Action fails to provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied reference. The Office Action fails to show that the reference discloses a product having all the structural limitations as claimed, and it fails to show that the reference discloses the same method as that claimed. Instead, the Office Action attempts to abrogate its burden of establishing a *prima facie* case of inherency, without the requisite showing of fact or technical reasoning to establish that the products are substantially identical or are produced by substantially identical processes.

Applicants' specification discloses that the disclosed dispersoids are stably dispersed without aggregation and have high transparency, and are capable of producing metal oxide films that are dense and smooth, and producing organic-inorganic hybrid materials that are transparent and homogeneous. *See* specification, page 3, lines 1–5; page 20, lines 8–15; pages 23–24. Lortz does not disclose that such properties are desirable in its product, nor does it teach or suggest how to obtain such properties; for example, Lortz does not disclose

and would not have led one of skill in the art to select the specific combination of elements recited in the claims to obtain these properties, including the 80% to 100% spectral transmittance expressly recited by the independent claims. Accordingly, these properties are completely unexpected over the teachings of Lortz.

The simple fact is that the Office Action fails to establish that Lortz discloses or would have rendered obvious a dispersoid obtained by mixing a metal compound having at least three hydrolyzable groups with at least 1.0 mole but less than 2.0 moles of water per mole of the metal compound, in the absence of all members selected from an acid, a base, and a dispersion stabilizer, wherein the dispersoid has a spectral transmittance of 80% to 100% measured at a dispersoid concentration of 0.5 wt % of oxide basis, at a quartz cell light path length of 1 cm, using the organic solvent as a control, and at a light wavelength of 550 nm.

For at least these reasons, Lortz does not anticipate, and would not have rendered obvious claims 1, 2, 13–15, 23–29, 43, and 44. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

B. Toki

The Office Action rejects claims 1, 2, 13–15, and 23–29 under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over U.S. Patent No. 6,235,260 to Toki et al. ("Toki"). Applicants respectfully traverse the rejection.

For the reasons discussed above, Applicants respectfully submit that the rejection is in error at least due to the Office Action not considering all of the structural limitations implied by the recited process steps, and for improperly relying on a theory of inherency with regard to the spectral transmittance. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

II. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are earnestly solicited.

Should the Examiner believe that anything further would be desirable to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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